

## 2025 The 8th Jc-IFTToMM International Symposium Program

June 21, Saturday			
9:15-10:15		Registration / Morning Meet & Greet	
10:20-10:30		Opening	
Session I: Machine Design and Control Chair: Atsushi Konno, Hokkaido University			
10:30-10:47		Balance Strategy for a Quadruped-Wheeled Robot under Three-Leg Support Conditions	XIAORUI YI (Waseda University)*; PENGJU WANG (Waseda University); KENJI HASHIMOTO (Waseda University)
10:48-11:05		Design of planar link mechanisms via multi-layered topology optimization	Yurika Sayo (The University of Tokyo)*; Takayuki Yamada (The University of Tokyo)
11:05-11:22		Fabrication of lightweight link by modifying infill density based on topology optimization	Kurihara Masajiro (Science Tokyo)*; Mitsuru Endo (Science Tokyo); Yukio Tsutsui (Science Tokyo and Yaskawa Electric Corporation); Shimpei Tanaka (Yaskawa Electric Corporation,)
11:23-11:40		KKT-Based Inverse Optimal Control with Unknown Inequality Constraints and Cost Weights via Convex Hull Approximation	Yi Wang (The University of Tokyo)*; Ko Ayusawa (AIST); Eiichi Yoshida (Tokyo University of Science); Gentiane Venture (The University of Tokyo)
General Assembly & Lunch break			
Session II: Robotic Hand and Grasping Chair: Naoyuki Takesue, Tokyo Metropolitan University			
13:00-13:17		Development of Reconfigurable and Underactuated Hand For Handling of An Objects with A Complex Shape in Narrow Space	Koichiro Hayashi (IHI Corporation)*; Hiroki Murakami (IHI Corporation); Tetsuyou Watanabe (Kanazawa University)
13:18-13:35		Study on Grasping and Installation of a Round Belt by Versatile Robotic Hand with Parallel Stick Fingers	Moriyama Yu (Wakayama University)*; Dobashi Hiroki (Wakayama University)
13:35-13:52		Design of a Prosthetic Hand with Computer Vision and Haptic Feedback Assistance	Jinan Luo (University of Yamanashi)*
13:53-14:10		Automated Grasping of Japanese Bento via Center of Gravity Estimation with LVM and YOLO11	Guanxue Qu (Waseda University)*; Jianan Xie (Waseda University); Kenji Hashimoto (Waseda University)
break			
Invited Talk Chair: Masaharu Komori, Kyoto University			
14:25-15:00		Introduction of Research Projects ongoing at JTEKT Collaborative Research Laboratory	Daisuke Matsuura (Institute of Science Tokyo)
Session III: Robotic and Mechatronic Systems Chair: Nobuyuki Iwatsuki, Institute of Science Tokyo			
15:15-15:32	online	Preliminary design of a novel helical locomotion-based soft crawling robot for in-pipe inspection	Lorenzo Toccaceli (Politecnico di Torino)*
15:33-15:50	online	Experimental validation of ASSIST-FEEv3, elbow motion assisting device	Cuauhtemoc Morales-Cruz (University of Rome Tor Vergata)*; Marco Ceccarelli (University of Rome Tor Vergata)
15:50-16:07	online	Preliminary Experimental test of Thermal Exploration Using a Termocamera for Specific Applications in Cultural Heritage	Mohammed KHADEM (University of Calabria)*; simone leone (DIMEG, University of Calabria); dmitry malyshev (DIMEG, University of Calabria); francesco iago (DIMEG, University of Calabria); giuseppe carbone (DIMEG, University of Calabria)
16:08-16:25		Improving Dexterity and Workspace for 3-DOF Spherical Motion Telemanipulators	Marco Fava (University of Bologna)*; Vincenzo Parenti-Castelli (University of Bologna); Michele Conconi (University of Bologna); Nicola Sancisi (University of Bologna)
break			
Session IV: User Interfaces Chair: Kenjiro Takemura, Keio University			
16:35-16:52	online	Integrating pseudo-haptic feedback into a computer mouse	Gabriel Bouillon (INSA Lyon)*; Akio Yamamoto (The University of Tokyo)
16:53-17:10	online	About the importance of revolute joints realization in force-sensitive drive interfaces for mobile robots and wheelchairs	Luigi Tagliavini (Politecnico di Torino)*; Andrea Botta; Lorenzo Baglieri ; Giovanni Colucci; Simone Duretto; Lorenzo Toccaceli; Francesco Amodio; Giuseppe Quaglia (Politecnico di Torino)
17:11-17:28	online	Hands-Free Wheelchair Control Using Vision-Based Intention Estimation	Lorenzo Baglieri (Politecnico di Torino)*; Daisuke Matsuura (Institute of Science Tokyo); Tsune Kobayashi (JTEKT corp. & Institute of Science Tokyo); Giuseppe Quaglia (Politecnico di Torino)
17:35-18:45		Networking session	

<b>June 22, Sunday</b>		
<b>9:20-9:30</b>		<b>Registration</b>
<b>Session V: Manipulation</b> <b>Chair: Hiroyuki Nabae, Institute of Science Tokyo</b>		
<b>9:30-9:47</b>		Ability Mining of Manipulation by Lower Limb Motion Using Rate Control Method - Manipulation in the Diagonal Direction – Masaharu Komori (Kyoto Univeristy)*; Ryo Koshiba (Kyoto University); Tatsuro Terakawa (Kyoto University)
<b>9:48-9:05</b>		Soft Robotic Manipulator Capable of Multidirectional Bending using Solid-liquid Phase Transition of Low-melting-point Alloys Kotaro Imada (Keio University); Kenjiro Takemura (Keio University)*
<b>9:06-9:23</b>		A Development of a Robotic Handling System for Automated Grape Thinning PO LUN HUANG (University of Yamanashi)*; Prawit Buayai; Hidetsugu Terada; Hiromitsu Nishizaki; Xiaoyang Mao; Koji Makino (University of Yamanashi)
<b>break</b>		
<b>Session VI: Actuators and Appliations</b> <b>Chair: Kenji Hashimoto, Insitute of Science Tokyo</b>		
<b>10:35-10:52</b>		Development of a Linear Electromagnetic Sheet Actuator Jiahe Li (The University of Tokyo)*; Akio Yamamoto (The University of Tokyo )
<b>10:53-11:10</b>		Development of a Calcium Imaging System for Mouse-derived Myoblast Cell Line C2C12 under Ultrasound Stimulation Nagisa Tsujimura (The University of Tokyo)*; Chikahiro Imashiro (The University of Tokyo); Takeshi Morita (The University of Tokyo)
<b>11:10-11:27</b>		Preliminary Study on Application of Tensegrity Module Driven by Thin McKibben Muscles to Variable- diameter Wheels Hiroyuki Nabae (Institute of Science Tokyo)*; Ryota Kobayashi (Institute of Science Tokyo); Koichi Suzumori ( Institute of Science Tokyo)
<b>11:28-11:45</b>		Torque Maximization of Induction Motor with CNT Yarn Wire applied Secondary Conductor using Size Optimization Seiya Zaima (Institute of Science Tokyo)*; Mitsuru Endo (Institute of Science Tokyo); Yukio Tsutsui (Yaskawa Electric Corporation / Institute of Science Tokyo)
<b>Lunch break</b>		
<b>Session VII: Human-Robot Interaction</b> <b>Chair: Hidetsugu Terada, University of Yamanashi</b>		
<b>13:00-13:17</b>		Development of a Communication Support System for Non-verbal Information Using the Aura Tadashi Komatsu (Kanto Gakuin University)*; Jiaqiang Zhang (Graduate School, Kanto Gakuin University)
<b>13:18-13:35</b>		Design of Contact Part between Vibrator and Human Skin to Effectively Induce Kinesthetic Illusions Koki Honda (The University of Tokyo)*, Hiraku Komura (Kyushu Institute of Technology)
<b>13:35-13:52</b>		Spring location design of a TR Ankle Assisting Device Takamaru Saito (Institute of Science Tokyo)*; Marco Ceccarelli (University of Rome Tor Vergata); Yukio Takeda (Institute of Science Tokyo); Ming Jiang (Institute of Science Tokyo); Matteo Russo (University of Rome Tor Vergata)
<b>13:53-14:10</b>		Toward Inclusive Robot Teleoperation: Real-time Japanese Sign Language Recognition System Mengyao Shi (Waseda University)*; Kenji Hashimoto (Waseda University)
<b>break</b>		
<b>14:20-14:35</b>		<b>Award Ceremony &amp; Closing</b>